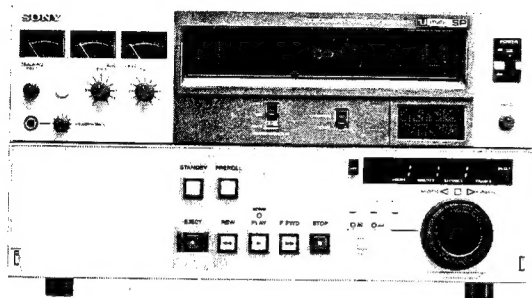


SONY®

VIDEOCASSETTE PLAYER

BVU-900P



Professional **U-matic** **SP**

OPERATION MANUAL

2nd Edition

Serial No. 10701 and Higher

FEATURES

BVU-900P is designed to play back a U-matic videocassette.

If two BVU-900P players, a recorder such as BVU-950P, an automatic editing control unit, and a special effects generator are connected, the A/B roll editing system can be constructed effectively with less cost.

Since BVU-900P has a built-in time code reader, time code of a cassette being played back can be output to a connected equipment. The features and optional boards/accessories are provided for obtaining high quality pictures and sound as well as effective editing.

The SP Format

Picture of good quality obtained

The BVU-900P is designed to play back a SP (superior performance) format recorded cassette in the SP format. In the SP format, the Y-FM carrier frequency is shifted up 1.2 MHz for a wider bandwidth of the Y-FM signal, which achieves a high quality picture.

The SP format cassette tape is available to make the best use of the SP format.

Playback corresponding to recording format

The BVU-900P can play back either the SP cassette or the conventional U-matic cassette. The BVU-900P automatically detects the type of the cassette loaded and its recording format, and plays it back in an appropriate format.

The SP cassette recorded with the SP format is played back in the SP format, and the U-matic cassette or the SP cassette recorded with the conventional recording format is played back in the conventional format*.

* Although the SP cassettes give the best result for recording and playback with the SP format, they can also be used with the conventional BVU series VTRs for recording. In this case, recording will, of course, be made in the conventional recording format.



Video Features

Directly motor-driven mechanisms

You can quickly access a desired scene with these mechanisms.

The head drum, capstan, and two reel tables are each directly driven with its own motor. Also, tensions on the tape can properly be controlled with these computerized controlling mechanisms to achieve quick tape access.

ϕ^2 (Phi square) servo loop circuit

By means of this circuit, the vertical sync signal of a composite video signal reproduced from tape is precisely phase-locked into the incoming servo reference signal.

Framing and capstan servo-mechanisms

The framing servo system is used to frame a video picture to external video signals. The capstan servo system is capable of locking into an externally supplied reference signal.

Connectors specially equipped for editing and duplication

The BVU-900P is equipped with a connector exclusively designed for editing and duplication. Use this connector for supplying video signals of better quality to a connected recorder.

Audio Features

High quality playback

The BVU-900P employs a sendust audio head for playback with a better frequency response. The BVU-900P also provides a higher signal-to-noise ratio.

Dolby NR* (noise reduction) system

The BVU-900P employs the Dolby NR* C system to reduce tape noise during playback. The Dolby NR system will automatically be activated when playing back a tape recorded with the Dolby NR system.

Audio level control

Audio signal level on audio channels 1 and 2 can separately be controlled manually.

Other Features

Quick tape access to a desired scene


Any desired scene can quickly be located using the search dial with shuttle/jog mode. This is helpful to locate the edit point in the editing system.

The search dial provides a recognizable picture both in the shuttle and jog modes. In the shuttle mode, the playback is possible at 16 speed steps, from 1/30 to 10 times the normal speed (in forward or reverse direction). In the jog mode, the picture changes as the search dial is rotated, at speed from the still to 1 times the normal speed (in forward or reverse direction).

Also, a recognizable picture is obtained in the fast forward and rewind modes if the BKU-903A time base corrector (optional) is installed in the player.

Dial menu operation mode

With the search dial, you can set title characters to superimpose on the video picture when the unit is operating in the dial menu operation mode.

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

Easy front access and remotely controlled functions

Most operations, including cassette insertion and removal, can be performed on the front panel. The lower half of the front control panel can be tilted up if necessary, or it can be removed for use as a remote control unit for the player itself (in this case, use it with a BKU-906 remote control panel extension kit optionally supplied and a BK-803 control panel case also optionally supplied). When you use the BVU-900P connected to a recorder such as BVU-950P, you can remotely control the player with the recorder.

Indicating lamps

The indicating lamps are located on the front panel so that you can see at a glance which function or operation mode is in use. When the items listed below are detected, the corresponding lamp lights.

- System servo lock-in
- Moisture condensation
- SP format
- Dolby NR
- Time code playback
- Time base correction
(When an optional BKU-903A time base corrector is used)

Digital time counter

The digital time counter counts the number of the CTL (servo control) pulses reproduced from tape to display tape travelling time or edit lap time. The display is in hours, minutes, seconds, and frames. Refer to this display to roughly locate where to edit.

Automatic stop and rewind functions

Automatic stop function

When the BVU-900P is in the rewind or review mode or when a cassette is inserted, it automatically goes into the stop mode when it detects the beginning of the tape.

Automatic rewind function

When tape reaches the end, the BVU-900P will automatically rewind the tape to the beginning.

Plug-in type boards

The BVU-900P uses plug-in type boards for simple servicing and maintenance.

Optional Boards and Accessories

BKU-903A plug-in time base corrector

With an easy-to-install BKU-903A plug-in type board, the time base corrected signal will be output. Connect the remote controller supplied with the BKU-903A to the TBC REMOTE connector.

BKU-904 digital noise reducer

This is a plug-in type digital noise reducer designed for the BVU-900P series. This board enables the player to have noise reduction and freeze functions*. When installing the board in the player, attach the board to the TBC board of the BKU-903A time base corrector.

BKU-906 remote control panel extension kit

The lower half of the front control panel of the BVU-900P can be removed for use as a remote controller to the player itself. Operation will be easier if BK-803 control panel case (optional) is used together with the BKU-906.

BK-803 control panel case

This is for easy operation of the front control panel when used with a BKU-906.

RMM-950 rack mount kit

This is used to install the BVU-900P in a standard 19-inch rack.

RMM-501 type-5 rack mount kit

This is used to install the BVU-900P in a Sony system console (optional).

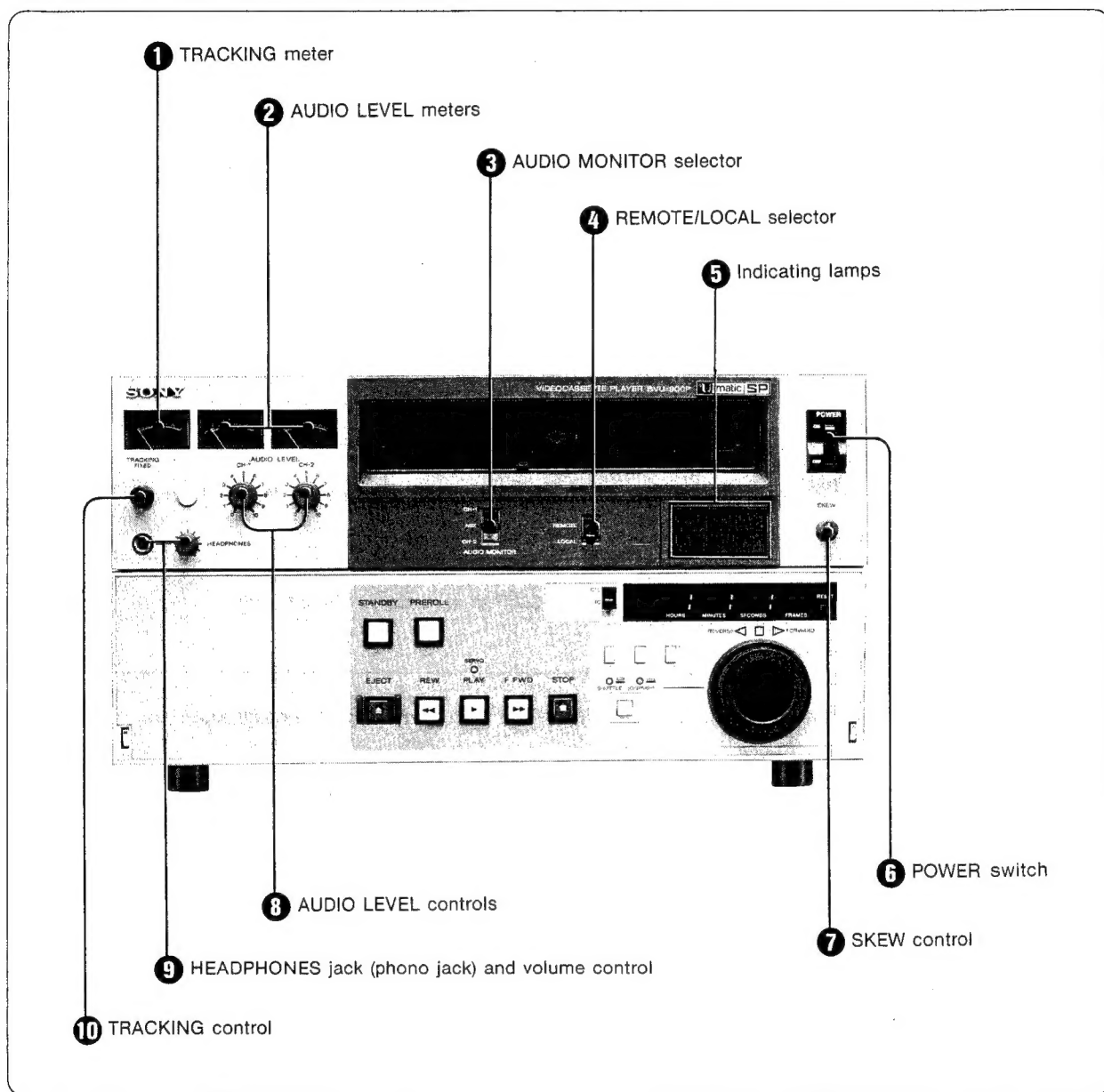
For more details, see the instructions supplied with each unit.

* Freeze functions are available with the dial menu.
See "DIAL MENU OPERATION" and the maintenance manuals for details.

LOCATION AND FUNCTION OF PARTS AND CONTROLS

On the Control Panel

Upper half of the front control panel



1 TRACKING meter

Indicates the FM signal level for videohead-to-tape tracking.

2 AUDIO LEVEL meters

Indicate outgoing audio signal level.

3 AUDIO MONITOR selector

Selects the audio output to the HEADPHONES jack ⑨, MONITOR connectors, and AUDIO OUT MONITOR connectors.

CH-1: The audio signal on channel 1 is selected.

MIX: The audio signals on channels 1 and 2 are mixed and output to the MONITOR and AUDIO OUT MONITOR connectors. At the same time, they are separately output to the HEADPHONES jack.

CH-2: The audio signal on channel 2 is selected.

4 REMOTE/LOCAL selector

Use this selector when the BVU-900P is connected and operated with a VTR and the other equipments.

This selector is activated when a VTR or other equipment is connected to the REMOTE 1 connector (9-pin) on the connector panel.

The functions are controlled as follows:

REMOTE: Set to this position when the BVU-900P is to be controlled by a VTR such as BVU-950P or an automatic editing control unit connected via the REMOTE 1 connector (9-pin). With this selector set to REMOTE, none of the function buttons for tape travel, except for the STOP and EJECT buttons, will function.

LOCAL: Set to this position to operate the BVU-900P alone.

Notes

- This selector is not activated when the REMOTE-1/REMOTE-2 selector on the sub-control panel is set to REMOTE-2.
- The buttons available with this selector set to REMOTE can be specified in the dial menu.
See "DIAL MENU OPERATION" and the maintenance manual for details.

5 Indicating lamps

Each lamp lights as follows:

DOLBY NR: Lights when a tape, which was recorded with Dolby NR on, is played back.

TIME CODE: Lights when the time code is reproduced.

TBC: Lights when a video signal from the BKU-903A time base corrector (optional) is output to the VIDEO OUT connectors located on the connector panel.

AUTO OFF: Lights when moisture condenses on the head drum or when the tape protector works.

SP: Lights when the BVU-900P plays back in the SP format. It does not light when a tape, recorded in the conventional recording format, is being played back even if it is an SP cassette.

Note

The SP lamp also lights while the BVU-900P is detecting the cassette type and recorded signal format.

6 POWER switch

ON: Set to this position to turn on the power. The lamps for the TRACKING meter ① and the AUDIO LEVEL meters ② will light up. When the CTL/TC/DIAL MENU selector ⑬ is set to CTL, the time counter display indicates 0:00:00:00.

OFF: Set to OFF to turn off the power.

7 SKEW control

Normally, this control is kept at the detent position. If the upper part of the reproduced picture is bent out of shape, turn this control for correction.

8 AUDIO LEVEL controls

Use these controls to adjust outgoing audio level on channels 1 and 2. At the highest playback level, adjust the controls so that the readings of the AUDIO LEVEL meters ② are nearly zero.

9 HEADPHONES jack (phono jack) and volume control

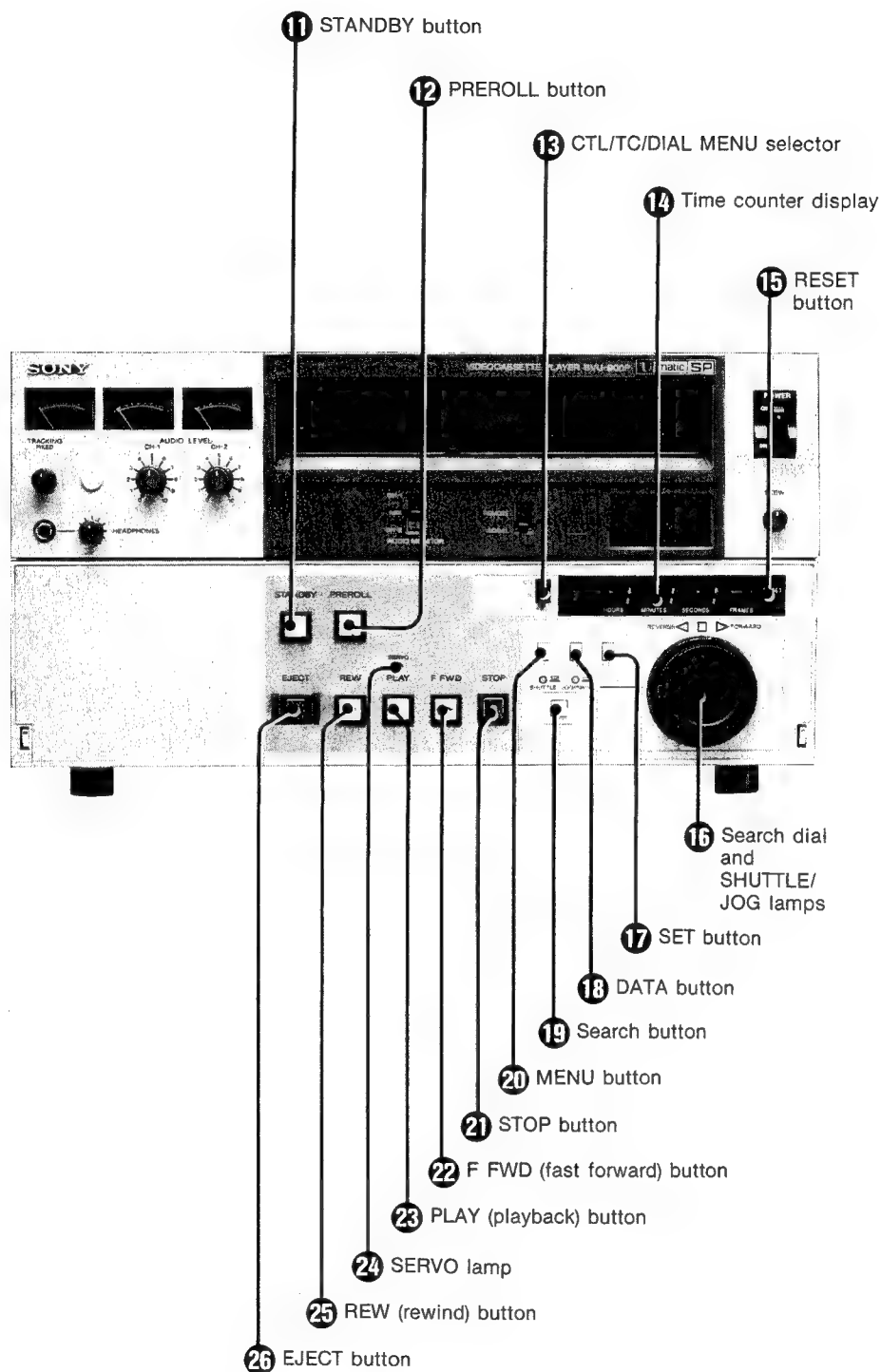
Connect 8 ohm stereo headphones to monitor the played back audio signal. Adjust the volume with this control.

10 TRACKING control

Normally, set to the position marked FIXED. With this control, videohead-to-tape tracking can be controlled during playback.

If noise appears in the playback picture, rotate this control for a maximum reading of the TRACKING meter ①. After playing back the tape, be sure to place this control at FIXED.

Lower half of the front control panel



11 STANDBY button

You can easily see whether the BVU-900P is in the standby ON or OFF mode.

When this button lights up: The BVU-900P is in the standby ON mode. In this mode, the head drum starts rotating and the BVU-900P is ready to operate.

Press this button to put the BVU-900P in the standby ON mode when it is in the standby OFF mode.

When this button is not lit: The BVU-900P is in the standby OFF mode. In this mode, the head drum stops rotating and the tension on the tape is released.

The unit enters the standby OFF mode when this button is pressed in the stop mode (see the STOP button ②) or when the BVU-900P remains in the stop mode for eight minutes.

Notes

- You can change the duration that the unit can stay in the stop mode from the dial menu.
See "DIAL MENU OPERATION" and the maintenance manual for details.
- Normally, the unit is set to the standby ON mode when it enters the stop mode.

12 PREROLL button

Press this button to transport the tape to a preroll point (this point is usually five seconds ahead of the IN point) at high speed. Use this button to prepare the tape to start playing back the desired scene manually.

Note

You can change the preroll time from the dial menu.

See "DIAL MENU OPERATION" and the maintenance manual for details.

13 CTL/TC/DIAL MENU selector

Selects what is displayed in the time counter display ⑭ as follows:

CTL: Displays time period of tape travel in hours, minutes, seconds and frames by counting CTL pulses.

TC: Displays time code

DIAL MENU: The BVU-900P goes into the dial menu operation mode and the dial menu will be displayed. In this mode, any other functions are deactivated.

Note

You can put the BVU-900P in the dial menu operation mode with the REMOTE/LOCAL selector ④ set to LOCAL only when a cassette is not inserted or when the unit is in the stop mode (see the STOP button ②).

14 Time counter display

Displays the item selected by the CTL/TC/DIAL MENU selector ⑬.

15 RESET button

When the CTL signal is used to display the time period of the tape travel on the time counter display ⑭, press to reset to 0:00:00:00.

16 Search dial and SHUTTLE/JOG lamps

Functions as a search dial for quickly locating a desired scene or as a selector for the dial menu operation according to the setting of the CTL/TC/DIAL MENU selector 13.

Setting	Function
CTL or TC	Search for a scene
DIAL MENU	Dial menu operation

The details of the function are as follows:

Search for a scene

Set the CTL/TC/DIAL MENU selector to CTL or TC. Push in to change from the shuttle mode to the jog mode and push it in again to change back. The corresponding lamp lights to show the current mode. Rotate the dial clockwise to run the tape forward (the ► lamp lights), and counterclockwise to run the tape in reverse (the ◄ lamp lights).

When the tape stops, the ■ lamp lights.

SHUTTLE: Set the dial to one of 16 positions to run the tape at a speed from 1/30 to 10 times normal speed. A still picture is obtained at the center detent position.

JOG: The dial turns freely. The tape runs at a speed from 0 to 1 times normal speed as the dial is rotated. When the dial is stopped, a still picture is obtained.

Dial menu operation

Set the CTL/TC/DIAL MENU selector to DIAL MENU. Rotate the dial while pressing the MENU button 20 or the DATA button 18 to set characters or numbers on the display.

See "DIAL MENU OPERATION" for details.

17 SET button

Press to superimpose the data characters on the monitor when the unit is in the dial menu operation mode. See "DIAL MENU OPERATION" for details.

18 DATA button

When the CTL/TC/DIAL MENU selector 13 is set to DIAL MENU, this button is effective. While pressing this button, use the search dial 16 to set data characters on the monitor display.

For details, see "DIAL MENU OPERATION."

19 Search button

Press to put the BVU-900P in the search mode.

20 MENU button

When the CTL/TC/DIAL MENU selector 13 is set to DIAL MENU, this button is effective. While pressing this button, use the search dial 16 to select a menu on the monitor display.

For details, see "DIAL MENU OPERATION."

21 STOP button

Press to put the BVU-900P in the stop mode. In the stop mode, the tape stops, however, the head drum still rotates and the tape is still loaded so a still picture is displayed. When a cassette is inserted, the BVU-900P automatically enters the stop mode without pressing this button.

22 F FWD (fast forward) button

Press to advance the tape at high speed.

Notes

- When the unit is put in the fast forward mode for the first time using a KCA-60 or KCS-20 cassette, the tape speed may intermittently slow down from 29 to 7 times normal playback speed.
- When the BKU-903A (optional) is used, the tape speed in the fast forward mode slows down and it may take longer than three minutes to wind a KCA-60 cassette tape completely.

23 PLAY (playback) button

Press to play back a tape.

24 SERVO lamp

With the PLAY button 23 pressed, normally the drum and capstan servo-mechanisms will start working properly. This lamp lights when the servo-mechanisms are locked in a reference signal.

25 REW (rewind) button

Press to rewind the tape at high speed.

Note

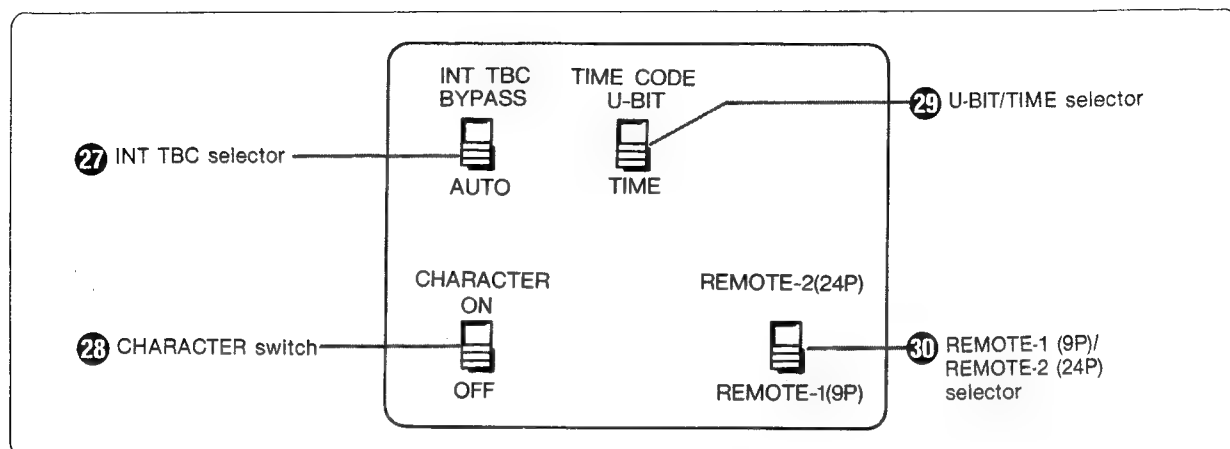
When a half-way wound KCS-20 cassette is inserted and the unit is put in the fast forward or rewind mode, the tape speed intermittently slows down to 7 times normal playback speed.

26 EJECT button

When this button is pressed, the tape is unthreaded and, in a few seconds, the cassette is ejected. Remove the cassette when the BVU-900P is not in use. This also resets the CTL counting time displayed on the time counter display 14.

Sub-control panel

This panel is behind the lower half of the control panel. See the next page to view the sub-control panel.



27 INT TBC (plug-in time base corrector) selector

This selector is activated when a BKU-903A time base corrector (optional) is installed in the BVU-900P. Setting of the selector affects the time base corrector operation on the video signals output from the VIDEO OUT connector of the BVU-900P as follows.

BYPASS: Time base corrector is not utilized.

AUTO: Time base corrector is activated except when a VTR is connected to the DUB OUT connector 13 on the connector panel and the INPUT SELECT switch on the VTR is set to DUB.

Be sure to supply a reference signal to the REF VIDEO IN connector located on the connector panel when a BKU-903A is installed.

28 CHARACTER switch

Normally, set to OFF. Set to ON to superimpose the title characters or the time code when the unit is in the dial menu operation mode.

29 U-BIT/TIME (user bits/time code) selector

Selects display on the time counter display 14 on the control panel.

U-BIT: The user bits will be displayed on the time counter display 14 if the CTL/TC/DIAL MENU selector 13 on the control panel is set to TC. Set the selector to this position when checking the user bits data.

TIME: The time code will be displayed on the time counter display 14 if the CTL/TC/DIAL MENU selector 13 on the control panel is set to TC. Set the selector to this position when checking the time code data.

30 REMOTE-1 (9P)/REMOTE-2 (24P) selector

Selects another VTR or another compatible unit to be connected to the REMOTE 1 or 2 connector.

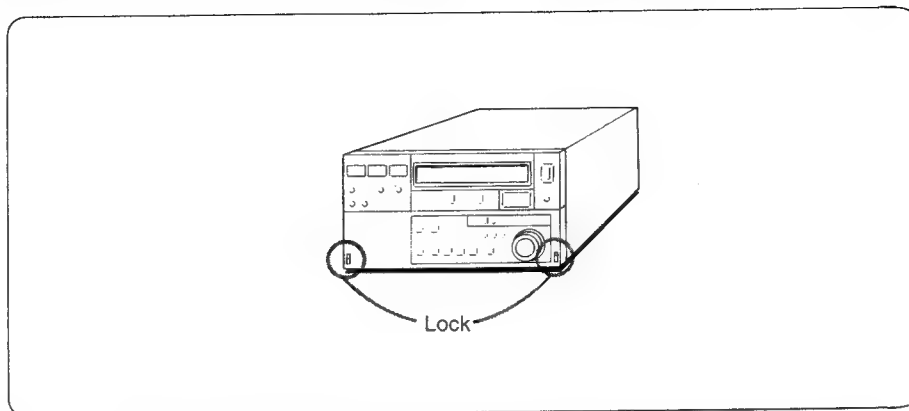
REMOTE-1: Another compatible unit connected to the REMOTE 1 connector (9-pin) located on the connector panel is selected.

REMOTE-2: Equipment connected to the REMOTE 2 connector (24-pin) located on the connector panel is selected.

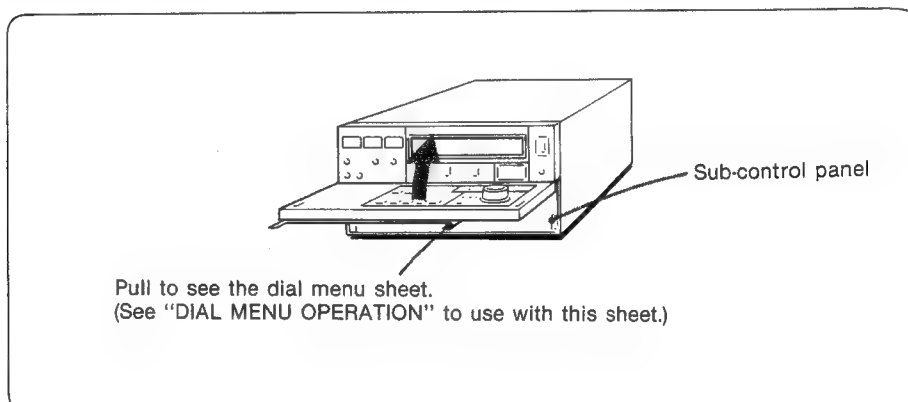
Control panel positioning

The lower half of the control panel can be tilted upwards for convenience.

- 1 Push down the locks on the both sides simultaneously so that the lower half of the front panel comes to the front.

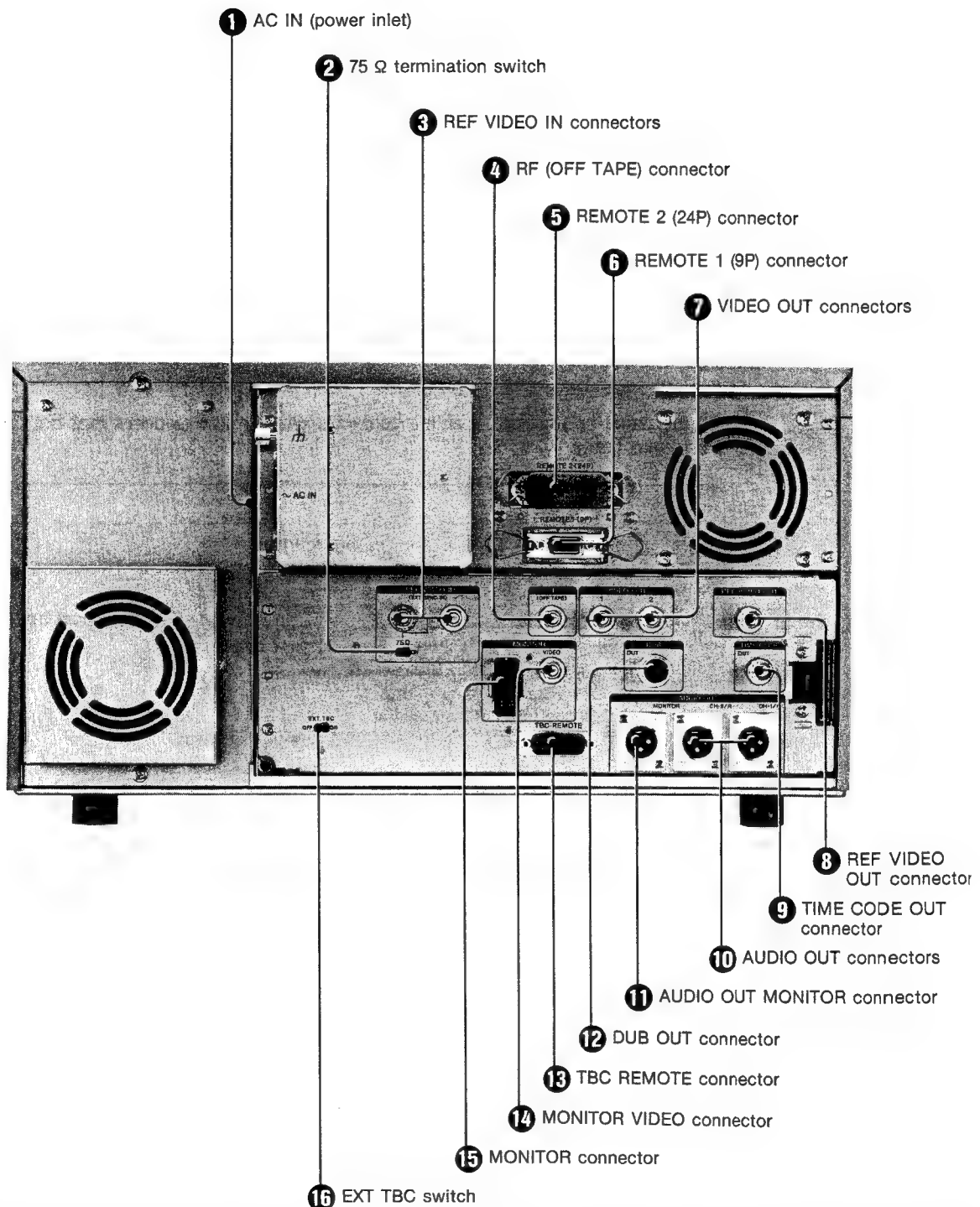


- 2 Tilt the panel up and lock it at the desired angle. Be sure to check that both sides are locked firmly.



For the removal of the control panel and for the installation of the BVU-900P in a rack, see the maintenance manual.

On the Connector Panel



- 1 AC IN (power inlet)**
 Plug in the supplied AC power cord to supply power to the BVU-900P.
- 2 75 Ω (ohm) termination switch**
 Use to terminate the signal supplied to the REF VIDEO IN connector **3**.
ON: When one REF VIDEO IN connector is used for the incoming reference signal and the other is left open.
OFF: For a bridging connection (One REF VIDEO IN connector is used for the incoming reference signal but the other is used to send the incoming reference signal to a VTR.)
- 3 REF VIDEO IN (reference video input) connectors (BNC type)**
 To externally lock the servo-mechanisms only, supply a sync signal (0.2 to 5 Vp-p) or a composite video signal (either VBS or VS, 1 Vp-p) as the reference signal.
 Supply a composite video signal (VBS, 1 Vp-p) as the time base reference signal when a BKU-903A (optional) is installed.
- 4 RF (off tape FM signal output) connector (BNC type)**
 Outputs the FM signal picked up by the videoheads. Use to supply the FM signal to detect dropouts for an externally connected time base corrector such as the BVT-810 (optional).
- 5 REMOTE 2 (24P) connector**
 This connector is for system expansion. For the use of this connector and its pin assignment, see the maintenance manual.
- 6 REMOTE 1 (9P) connector**
 Connect BVU-950P or a unit such as the Sony BVU-850P/870P, BVW-40P/70P/75P video cassette recorder, or BVE-900 Sony automatic editing control unit to perform an edit recording.
 Use the supplied 9-pin remote control cable to make the connection.
- 7 VIDEO OUT (output) connectors (BNC type)**
 A composite video is output from these connectors. Connect to the video input connector of a VTR or a video monitor.
- 8 REF VIDEO OUT (reference video output) connector**
 This output can be used when a BKU-903A time base corrector is installed. The signal being output is the same as the signal being input to the REF VIDEO IN connector **3**. When a signal is not input, the reference signal generated by the BKU-903A time base corrector will be output.
- 9 TIME CODE OUT (output) connector (BNC type)**
 Time code is output from this connector during playback. Connect to the input connector of an external time code generator/reader.
- 10 AUDIO OUT (output) connectors (XLR 3-pin)**
 Audio signals are output from these connectors. The output level is controlled by the AUDIO LEVEL controls located on the control panel. For editing, connect to the audio input connectors of a recorder.

11 AUDIO OUT MONITOR (audio monitor output) connector (XLR 3-pin)

Connect to audio equipment for monitoring. The output is selected with the AUDIO MONITOR selector located on the control panel.

12 DUB OUT (dubbing output) connector (7-pin)

Use to supply the video signal to be dubbed to a U-matic VTR. Connect to the dub in connector of the U-matic VTR using the VDC-5 7-pin dubbing cable.

13 TBC REMOTE (time base corrector remote control) connector

When a BKU-903A time base corrector (optional) is installed, connect the BVR-55P remote controller supplied with the BKU-903A.

14 MONITOR VIDEO (monitor video output) connector (BNC type)

This outputs the video signal for monitoring. Connect to the video input connector of a color monitor. Information superimposed on a picture in the dial menu operation mode will also be output.

15 MONITOR (monitor output) connector (8-pin)

Connect to the VTR connector (8-pin) of a video monitor with a monitor connecting cable such as the VMC-3P/5P/10P (optional). Through this cable, both video and audio signals can be monitored. An audio signal(s) selected with the AUDIO MONITOR selector located on the control panel will be output. Information superimposed on a picture in the dial menu operation mode will also be output.

16 EXT TBC (external time base corrector) switch

Selects an external time base corrector when a BKU-903A plug-in time base corrector (optional) is not installed.

ON: Set to this position to use with a stand-alone time base corrector.

OFF: Normally, set to this position if a time base corrector is not used.

Note

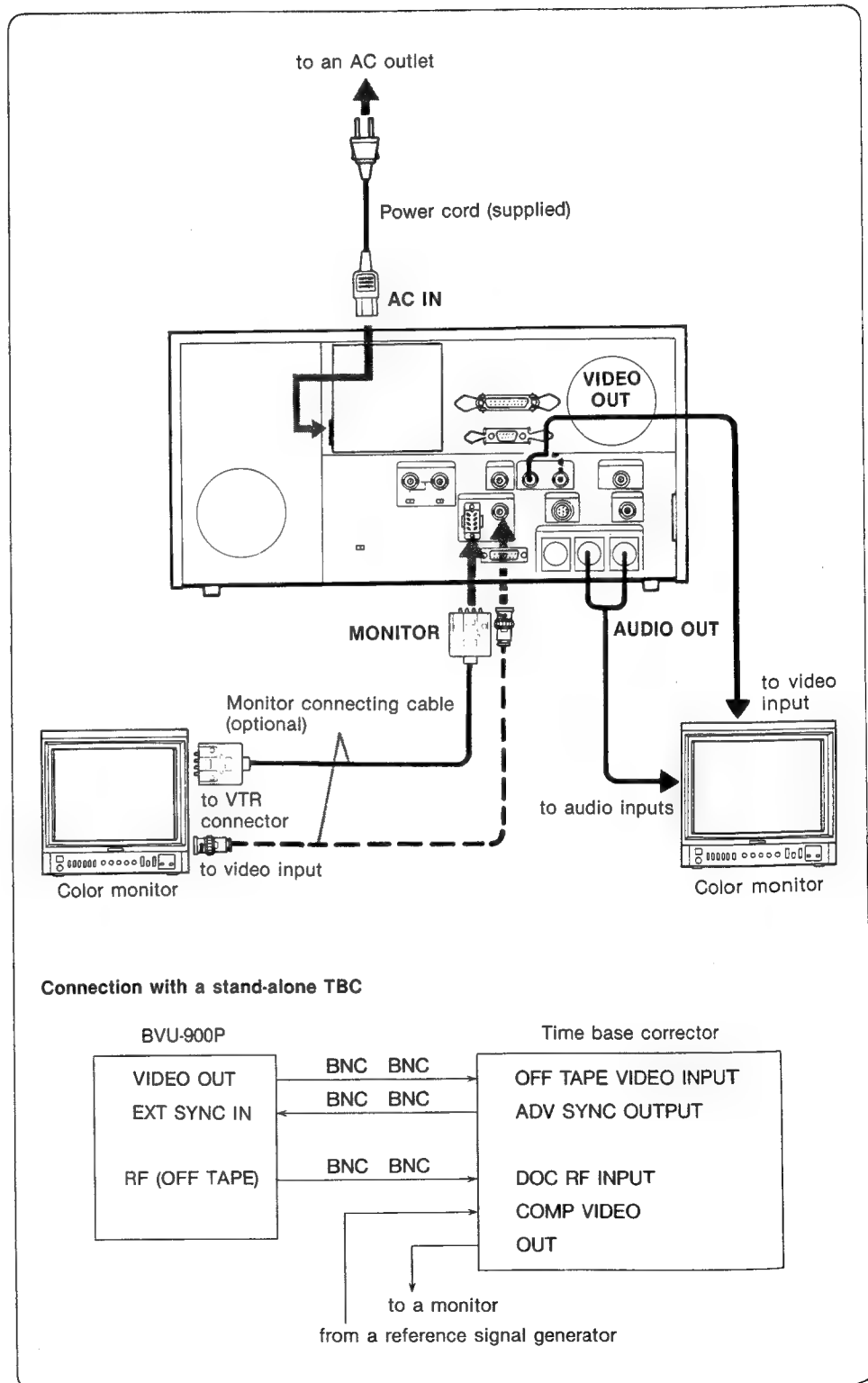
When this selector is set to ON and a BKU-903A is installed, the BKU-903A will be used instead of the externally connected time base corrector.

CONNECTION

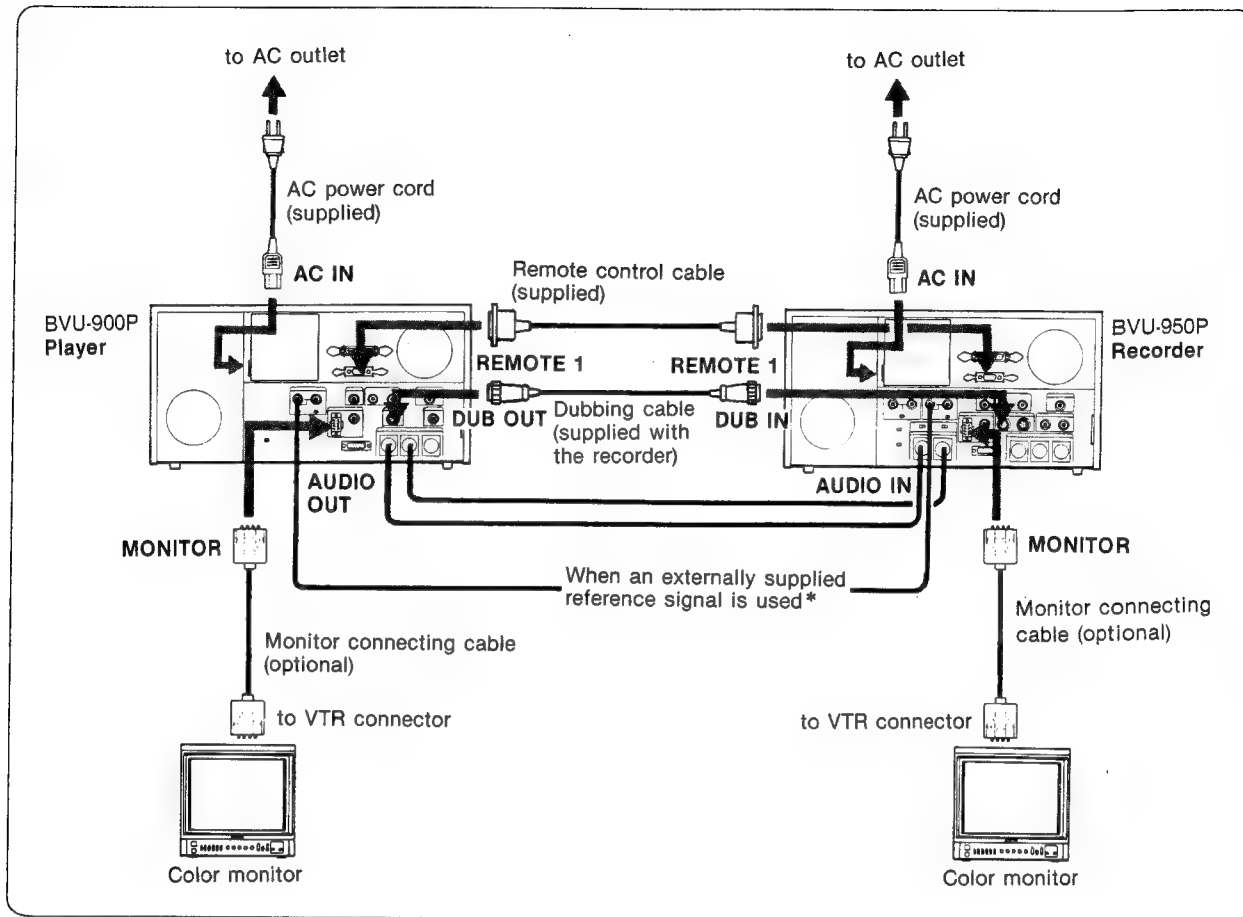
There are three main system connections available with the BVU-900P as shown below. For operations, see "OPERATION."

- Playback system
- Editing system with a BVU-900P and a BVU-950P recorder
- A/B roll editing system

For Playback

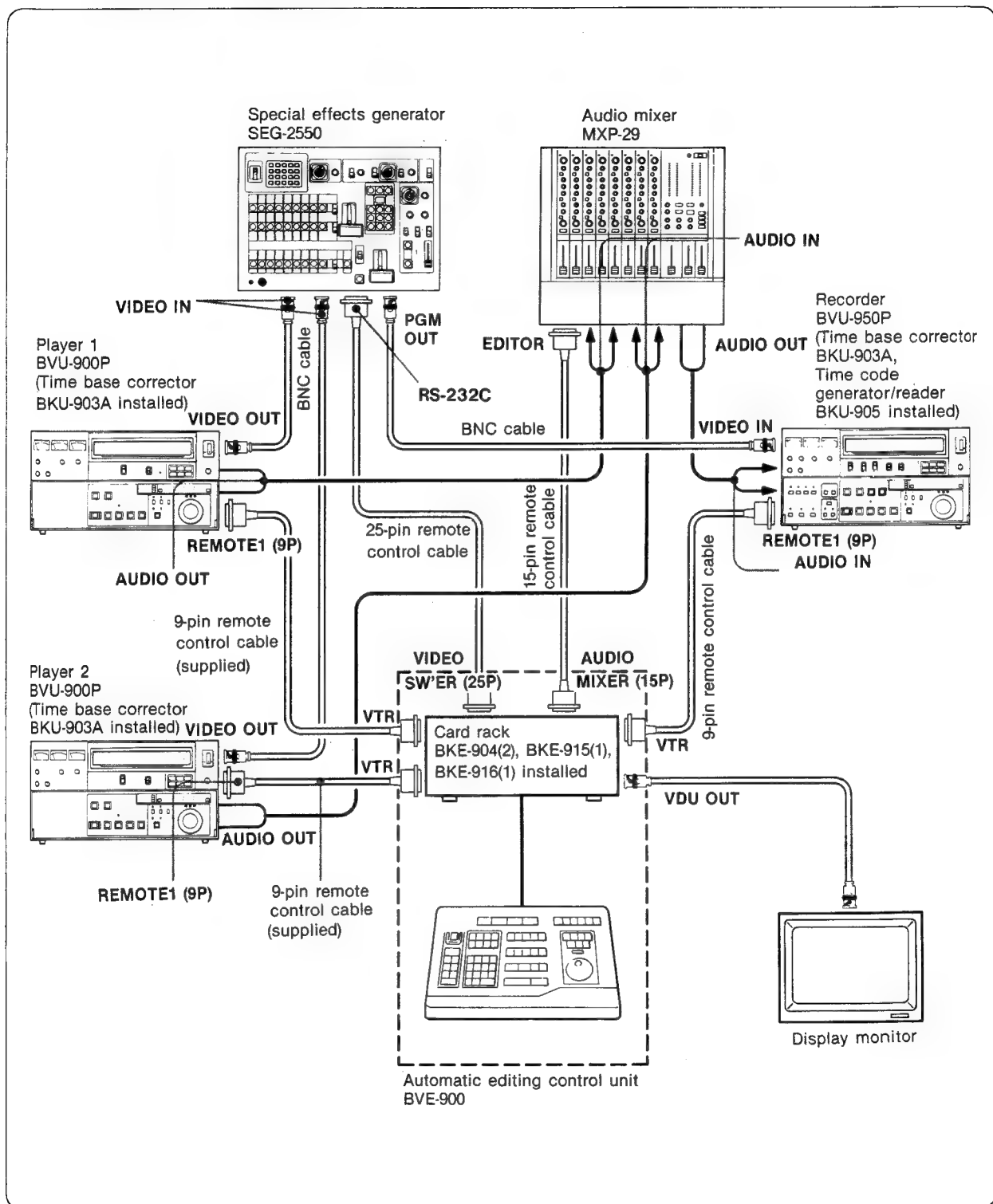


For Editing with BVU-900P and a Recorder



* For more accurate editing, use an externally supplied reference signal. Phase lock the servo-mechanisms of both the player and recorder with that reference signal. Supply it to the REF VIDEO IN connectors of both units.

For A/B Roll Editing



OPERATION

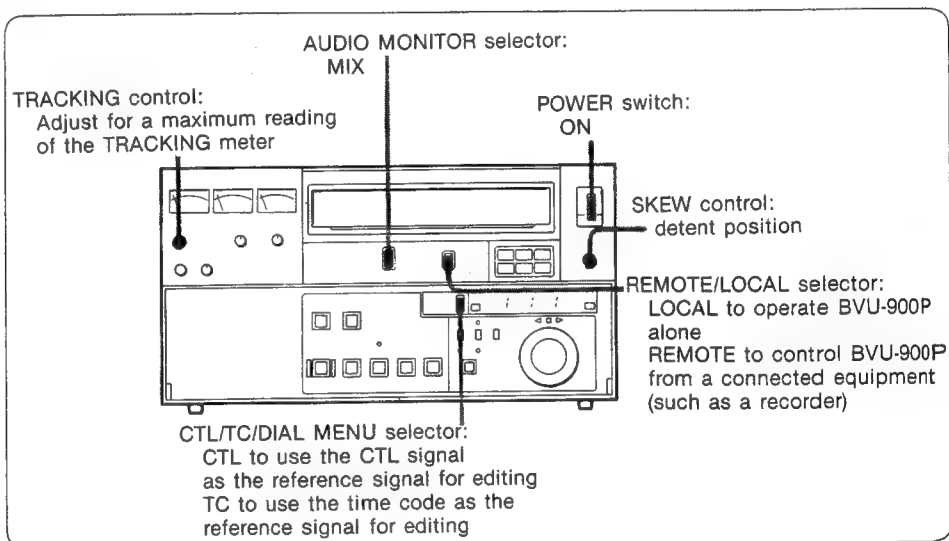
In this section, basic operational methods such as making preparations for playback and editing, inserting and removing a cassette, tape playback, searching for a specific scene, are explained. For details about the editing methods, refer to the operation manual of the recorder which is used with the BVU-900P.

To superimpose titles over video picture, see "DIAL MENU OPERATION."

Preparation

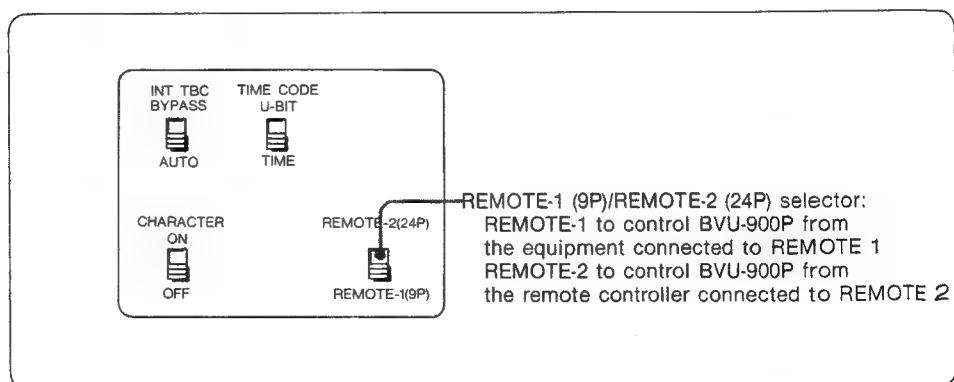
Setting selectors and switches

On the control panel



On the sub-control panel

When the selector is set to REMOTE-2, the REMOTE/LOCAL selector on the control panel does not function.



Adjusting video and audio signal levels*

Video level adjustment

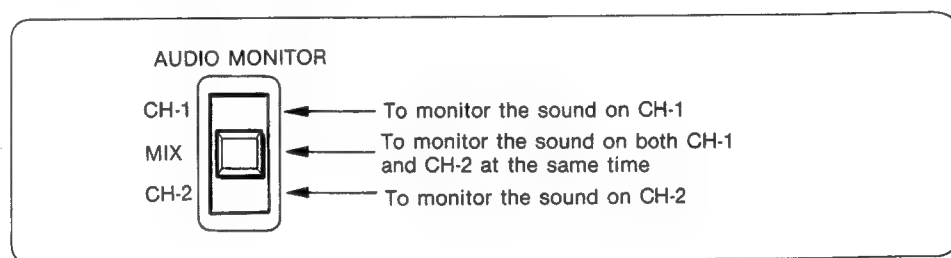
This is automatically adjusted.

Audio level adjustment

Use the AUDIO LEVEL controls on the control panel. Two channels can be adjusted independently. Adjust the controls so that the readings of the AUDIO LEVEL meters are nearly zero at the highest possible audio level.

Monitoring audio signals

To monitor the audio signal of the desired channel, use the AUDIO MONITOR selector.



Time counter display

A lap time, which is determined by counting the number of the pulses derived from the recorded CTL signal with the CTL/TC/DIAL MENU selector on the control panel set to CTL, is displayed.

Press the RESET button to reset the display to 0:00:00:00. The lap time from the reset point to the beginning of the tape is displayed with a minus sign.

Notes

- Because the figures displayed depend on the number of the CTL pulses counted, there may be errors in the displayed figures when a tape is played back with missing CTL pulses.
- There may also be errors in the displayed figures when fast forward and rewind operations are repeated because CTL signal read errors are likely to occur in those modes.
- The displayed figures will not change when playing back a blank cassette tape because it does not have the CTL signal recorded on it.

* These adjustments can be made after playback has started.

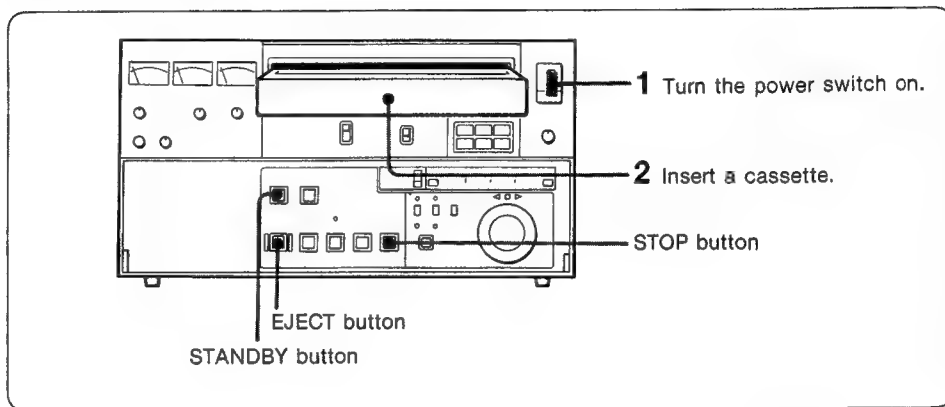
Cassette Insertion and Removal

Usable cassettes:

3/4-inch U-matic cassettes such as KSP, KSP-S, KCA, KCS or equivalent type can be used with the BVU-900P.

Inserting a cassette

Proceed as follows:



The cassette is automatically pulled in, the tape is threaded and the head drum starts rotating. The unit is now in the stop mode.

The STOP and STANDBY buttons on the control panel will light up.

Removing a cassette

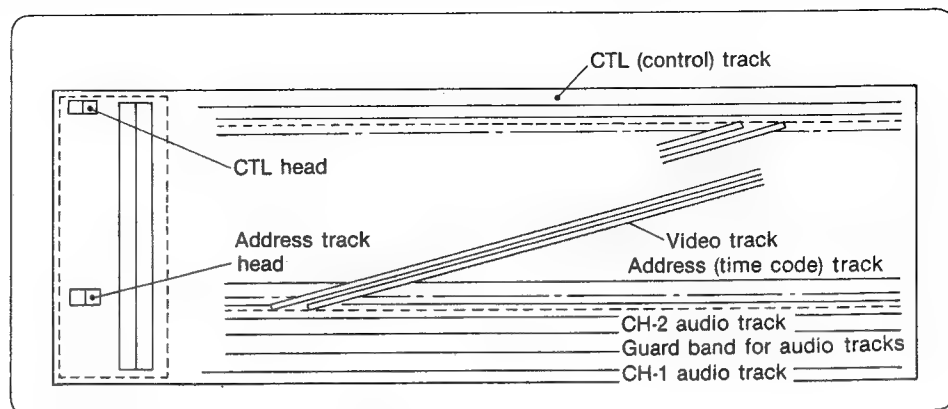
Press the EJECT button.

The tape is unthreaded and the BVU-900P automatically ejects the cassette.

Notes

- Be sure to remove the cassette when the BVU-900P is not in use to protect tape from accidental damage.
- When inserting a cassette whose tape is wound to the very beginning or to the very end, the tape first automatically runs forward or backward at high speed and then it starts being threaded. This prevents videohead clogging possibly caused by the leader or trailer tape.
- Do not insert a KSP or KCA cassette which is wound to the very end. First, wind back the tape by hand until the black magnetic tape is wound on the supply reel hub. Then insert the cassette.

Tape pattern

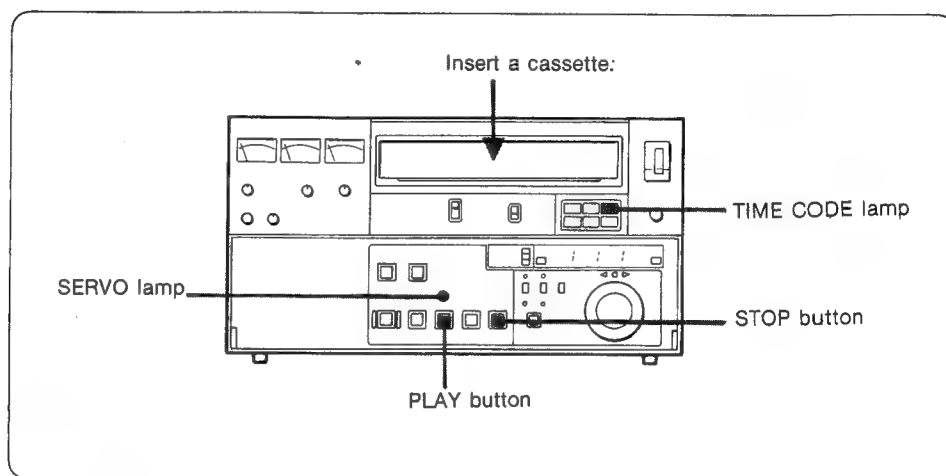


Starting Playback

Operation

To start playing back, proceed as follows:

- 1** Insert a cassette.
- 2** Press the PLAY button.
Playback starts and the PLAY button lights up.
When the servo-mechanisms are locked in, the SERVO lamp will also light up.



Note

With the PLAY button pressed, the playback starts immediately. But, it takes a few seconds for the servo-mechanisms to lock in, so the picture reproduced may be broken up during this time.

To stop playing back

Press the STOP button.
Playback ends and the STOP button lights up.

Reproducing the time code

When the tape with time code recorded on it is played back, the time code is automatically reproduced, and the TIME CODE lamp lights up.

Playing back with a time base corrector

Use a BKU-903A time base corrector (optional).
See the operation and maintenance manual supplied with the time base corrector.

Dolby NR automatic detector

When a tape recorded with the Dolby NR system is played back, the Dolby NR system is automatically activated. Even when only one channel is recorded with the Dolby NR system switched on, both channels are played back with the Dolby NR system.

Notes on Playback

If the picture is broken up

If a reference sync is externally supplied, the capstan servo-mechanism will lock in to it during the playback operation.

Be sure to supply a specified signal (normally, a composite video signal) to the REF VIDEO IN connector, or turn off the equipment connected to the connector.

With the connected equipment switched on and no specified signal output, noise may be supplied to the connector and be a possible source of disturbance for the servo system.

When neither the specified signal nor noise is supplied to the connector, the servo system will automatically be locked in the internally generated reference signal.

Tracking and skew control

Tracking control

Normally, the tracking control knob, located on the control panel, is set to the position marked FIXED. However, if noise is present when the picture is being reproduced, rotate it using the TRACKING meter as a guide until it gives a maximum reading.

Note

When the tape is finished playing, be sure to return the TRACKING control to FIXED.

Skew control

Normally, set to the detent position. When there is skew at the top of the picture being reproduced, adjust the SKEW control located on the control panel.

Preventing videohead clogging and possible tape damage

The BVU-900P can stay in the still or stop mode for a maximum of eight minutes.* After eight minutes, the mode will change as follows:

In the stop mode

The STANDBY button goes out, the head drum stops rotating, and tension on the tape is released. To start operating the unit, press any button except for the STOP button.

Press the STANDBY button to put the unit in the stop mode once more.

In the still mode

Tape starts running in the forward direction at 1/30 normal speed.

* This time period can be changed from the dial menu. See "DIAL MENU OPERATION" and the maintenance manual for details.

Condensation on the head drum

The tape will not run when moisture condenses on the head drum. Condensation occurs when there is a rapid change in temperature.

In this case, the AUTO OFF lamp lights up, the tape protector works, and the BVU-900P will not operate. When the power is turned on with a cassette being loaded, the BVU-900P automatically ejects the cassette and the head drum starts rotating to dry itself quickly. The BVU-900P is operative when the AUTO OFF lamp goes out.

Note

Because it takes a few minutes for the condensation detector to detect condensation, leave the BVU-900P unused for at least ten minutes when it is brought into a warm room from a cold place.

Then turn the BVU-900P on. It can be operated as long as the AUTO OFF lamp does not light.

If the AUTO OFF lamp lights, leave the power on and wait until the AUTO OFF lamp goes out. When the AUTO OFF lamp is lit, a cassette cannot be inserted.

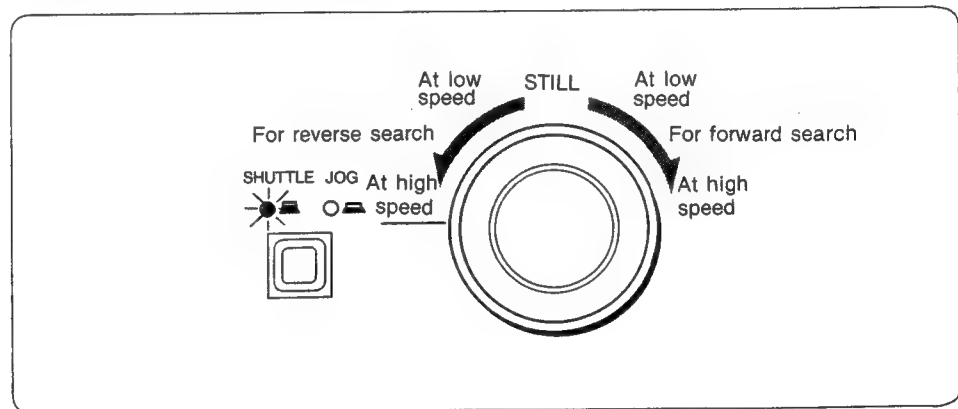
Searching for a Scene

Any desired scene can quickly be located using the search dial on the control panel. This is very useful when searching for an edit point in the editing system. There are two search modes: the shuttle mode and the jog mode. Combination of two modes help locating a scene more quickly.

The search mode can be changed from the shuttle to the jog, and vice versa, by pressing the dial.

Shuttle mode

In the shuttle mode, the tape playback speed depends on the position of the dial. The tape runs at a speed from 1/30 to 10 times the normal speed. Enter this mode to search for an approximate scene.



Jog mode

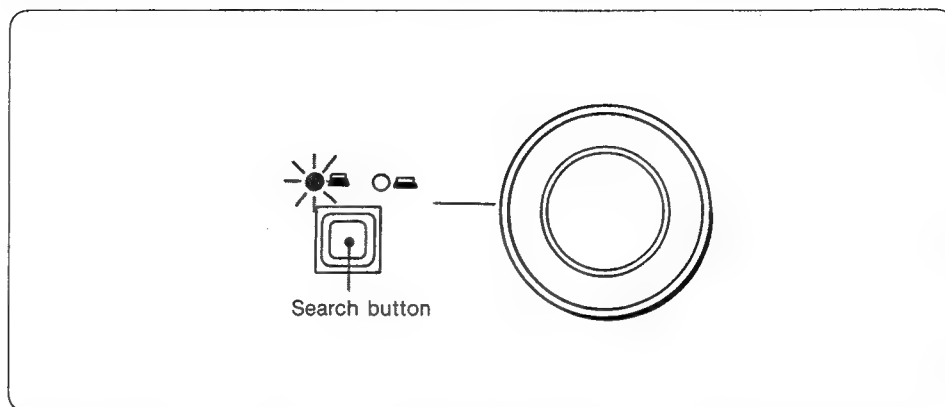
In the jog mode, the tape is played back as the dial is rotated at a speed from 0 to 1 times the normal speed. (The tape playback speed depends on the speed of the dial rotation.) Enter this mode to precisely locate the frame of a desired scene.

Notes

- Set the search dial at the center position once when the power is turned on, and then start rotating the dial.
- When the dial is turned to the right or left in the shuttle mode, it will stop in the detent position. Turn it further to enter the 10 times normal playback speed. In that moment, the picture observed may be frozen or it may be broken up.

How to use the search button

The search button should not necessarily be pressed to enter the search mode. Turn the search dial and the BVU-900P goes into the search mode. Use the search button to start playing back at a preset speed.



- 1** Turn the search dial in the shuttle mode and set it for the desired playback speed.
- 2** Press either the PLAY or STOP button.
- 3** Press the search button, and playback will begin at the preset speed.

To deactivate the search function

You can disable the search dial operation to prevent accidental entry into the search mode.

See "DIAL MENU OPERATION" and the maintenance manual for details.

DIAL MENU OPERATION

Use the search dial to set and superimpose title characters, or to set the duration that the tape tension mechanism remains activated. The following functions are available.

What Can Be Done with Dial Menu

Basic functions	Superimpose title characters Mode shift to the enhanced mode
Supplementary functions (enhanced mode)	Self-diagnostics Hour meter for accumulated head drum run time Hour meter for accumulated power on time Selection of duration before releasing tape tension Selection of tape protecting mode Selection of search dial function ON/OFF of head drum rotation in the standby OFF mode Selection of display with CTL Selection of preroll time PINCH ON timing Selection of the operative buttons with REMOTE selection Selection of freeze mode for the digital noise reducer

Note

This operation manual describes only the basic functions.
To perform the supplementary functions, enter the enhanced mode. See the maintenance manual for further details.

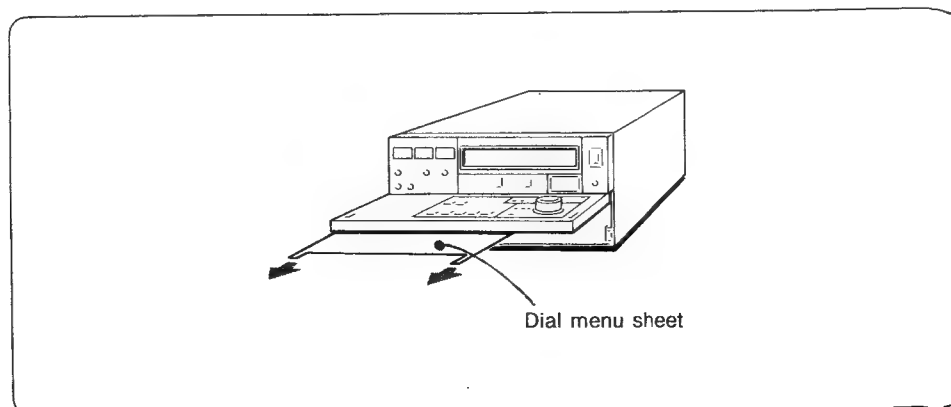
Basic functions

There are three basic functions. Each is numbered as listed in the table below.

Setup item	Function	Initial set
103 TITLE (SMALL)	Title characters to superimpose in small letters	OFF
104 TITLE (LARGE)	Title characters to superimpose in large letters	OFF
200 SETUP GRADE	Mode shift selection to execute the supplementary functions	BASIC

Dial menu sheet

This sheet provides a quick review of the procedures for the dial menu operation.



Operation

To enter the dial menu operation mode

- 1** Push the search dial in and set it to the jog mode.*
- 2** Press the STOP button to put the BVU-900P in the stop mode.
If a cassette is not inserted, skip this step.
- 3** Set the selectors below as follows:
CTL/TC/DIAL MENU selector: DIAL MENU
REMOTE/LOCAL selector: LOCAL
The BVU-900P now goes into the dial menu operation mode and one of the setup items (103 to 220 as listed in the table) will be displayed on the monitor.* *
- 4** Turn the search dial while pressing the MENU button.
Turn it clockwise and the higher numbered setup item appears on the monitor.
Turn it counterclockwise for the lower.
- 5** Stop the dial when the desired setup item is displayed and then release the MENU button. The desired setup item is selected. For operation with each setup item, see the following sections.

To exit the dial menu operation mode

Press the search dial or set the CTL/TC/DIAL MENU selector to TC or to CTL.
The menu displayed disappears and the BVU-900P exits the dial menu operation mode.

* The SHUTTLE/JOG lamp does not light in the dial menu operation mode.

But, if the search dial turns freely, you are operating in the jog mode. If it does not, you are operating in the shuttle mode.

* * Press only the MENU button, not the search dial, to display the function item number which is currently selected on the time counter display.

To superimpose title characters

The title characters set with this operation will be superimposed over the picture which is displayed before entering the dial menu operation mode.

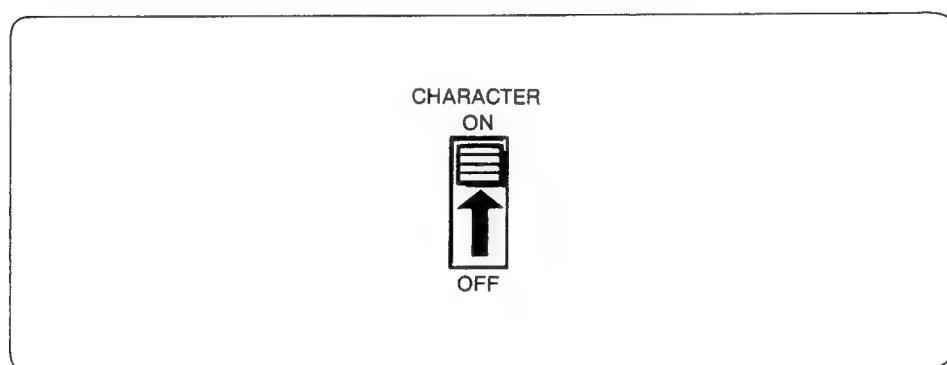
The operations for the setup item "103 TITLE (SMALL)" (title characters to superimpose in small letters) and for the setup item "104 TITLE (LARGE)" (title to superimpose in large letters) are the same, only the the size and number of characters displayed are different.

The maximum display for each menu is as follows:

Small size: 20 characters by 3 lines

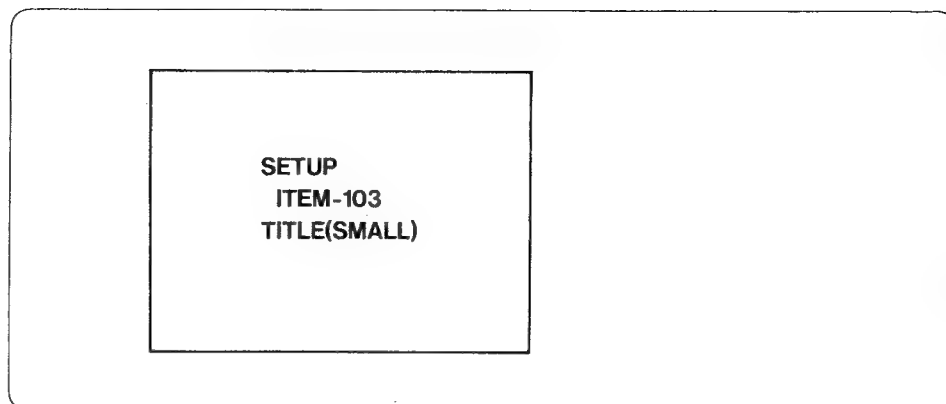
Large size: 20 characters by 1 line

- 1 Set the CHARACTER switch on the sub-control panel to ON.

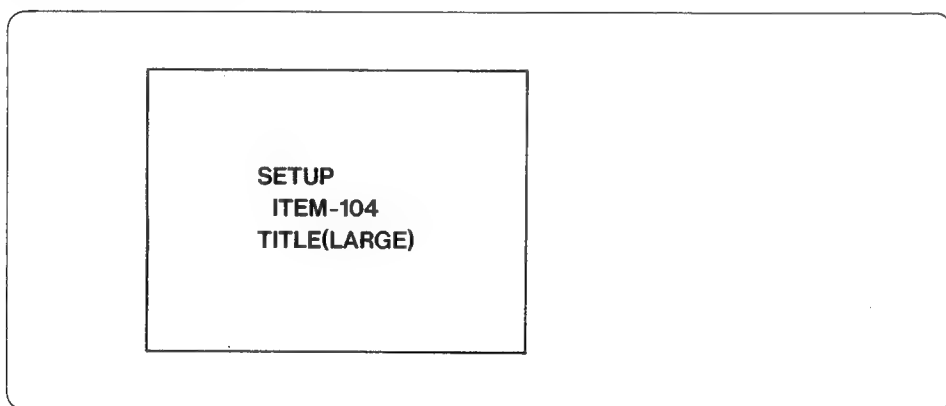


- 2 Referring to “To enter the dial menu operation mode” on page 32, display the setup item “103 TITLE (SMALL)” or “104 TITLE (LARGE)”.

103 TITLE (SMALL)

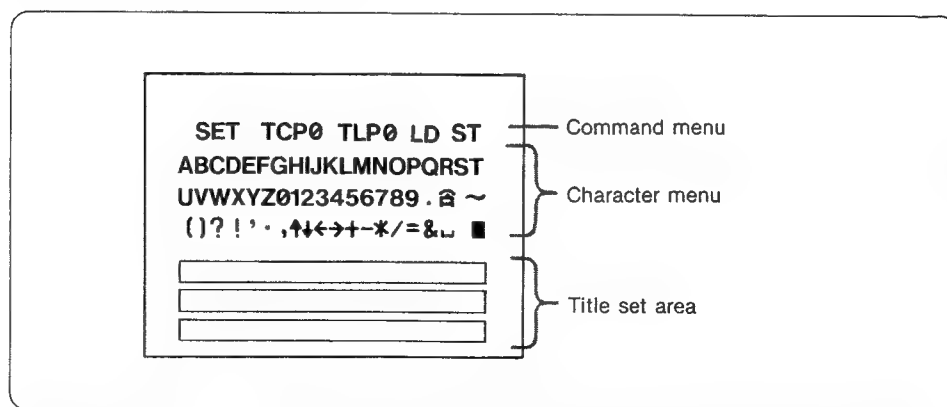


104 TITLE (LARGE)

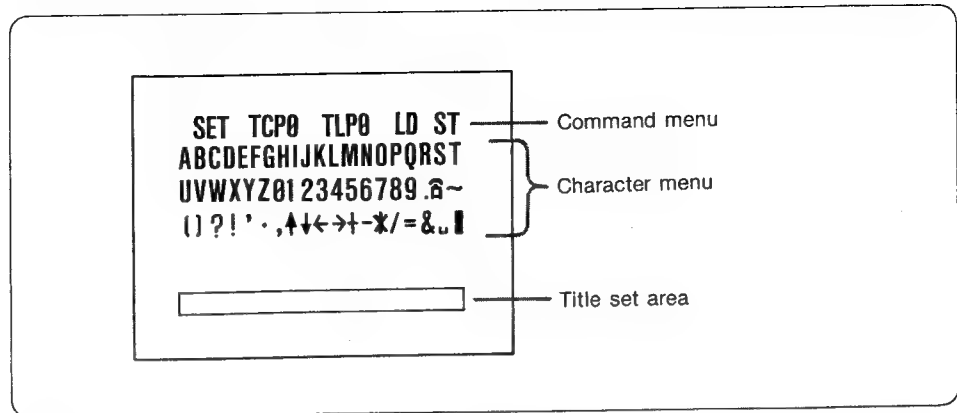


- 3 Stop turning the search dial and release the MENU button.
The menu below will be displayed. The blinking character can be entered and the blinking command can be executed.

Menu of 103 TITLE (SMALL)



Menu of 104 TITLE (LARGE)



- 4** Turn the search dial so that the TLP0 command blinks. Then set the position on the display for the characters. See "How to use commands" on page 36 to set.
- 5** While pressing the DATA button, turn the search dial to set the position to display the first character in the title set area. Skip this step to set from the beginning.
- 6** Turn the search dial so that the desired character blinks. Then press the SET button.
The blinking character will be placed in the title set area.
Repeat this procedure to set the complete title.

Note

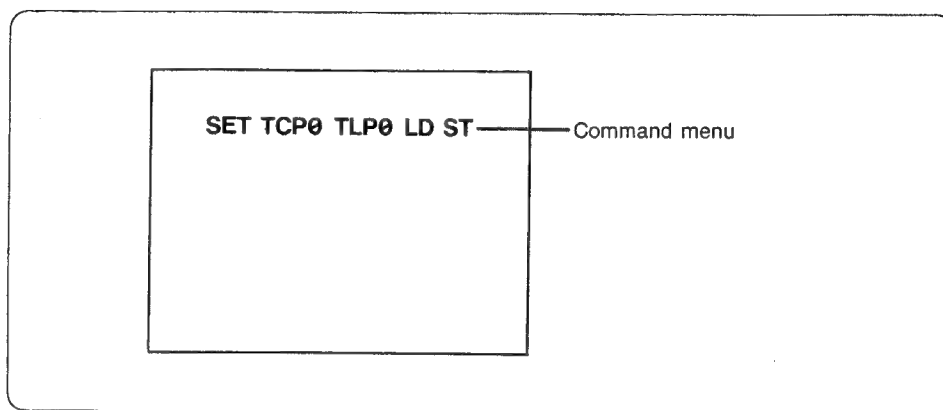
The number of characters that can be placed is limited to the maximum for the title set area.

- 7** When all the characters required are set, turn the search dial so that the SET command blinks, and then press the SET button.
The title will be displayed in the title set area determined in step 4.

How to use commands

To execute a desired command, follow the same procedure as for the character setup; turn the search dial so that the desired command blinks and then press the SET button.

The function of each command is as follows:



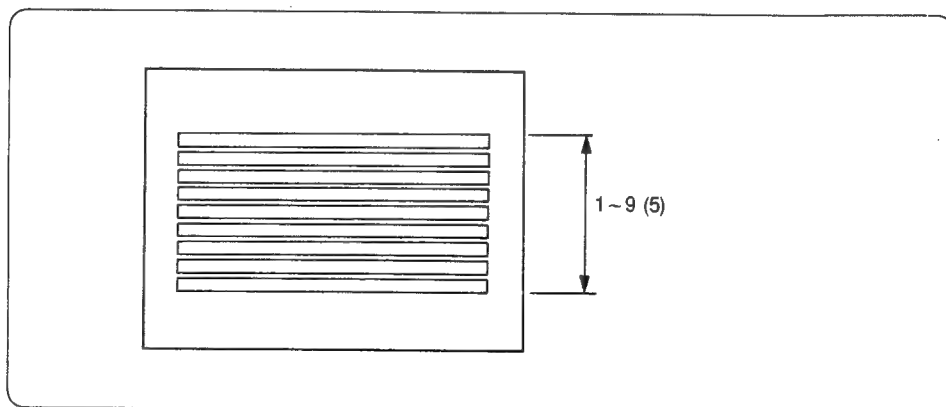
SET

Turn the search dial until the command blinks and then press the SET button to execute the SET command. When the SET button is pressed, the title characters will be superimposed on the playback picture.

TCP0

This is to set the position of the time code on the display. Use 1 to 9 for small characters, and 1 to 5 for large.

- 0: Erase the time code display*
- 1 to 9 (or 5): Set the position of the time code



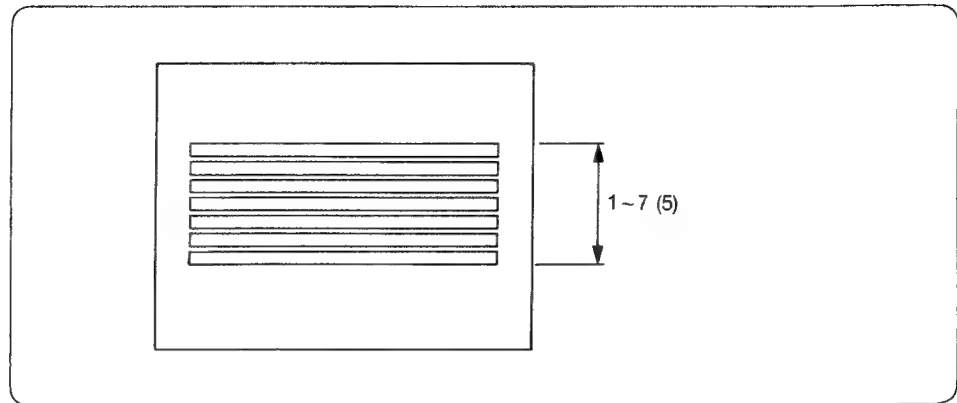
* Do not set to 0 to superimpose time code.

TLP0

This is to set the position of title characters on the display. Use 1 to 7 for small characters, and 1 to 5 for large.

0: Erase the title character display*

1 to 7 (or 5): Set the position of the title characters

**Note**

If the title characters and time code characters are set to the same position, the title characters have priority.

LD

The title characters displayed in the title set area are erased, and then the title characters which is stored in the memory by the ST command will be displayed.

ST

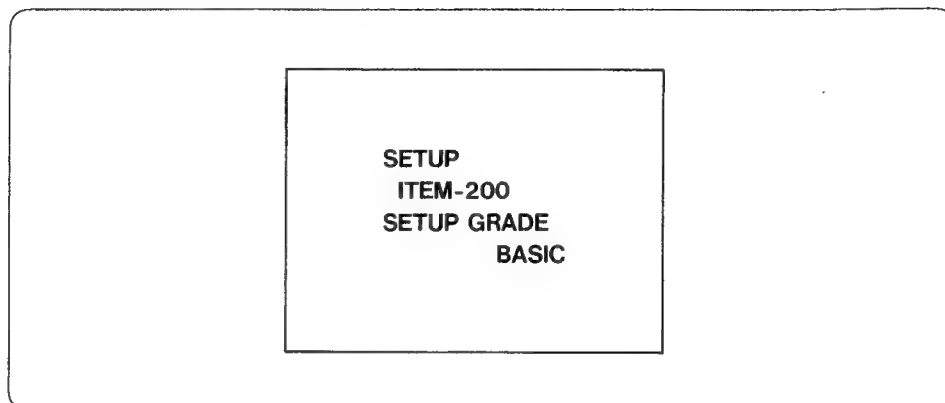
The title characters set in the title set area are stored in the memory. These will not be erased even if the power is turned off. Use the LD command to recall them.

* Do not set to 0 to enter characters.

To shift to the enhanced mode

To use the supplementary functions, display the setup item "200 SETUP GRADE". Then shift to the enhanced mode.

- 1 Referring to "To enter the dial menu operation mode" on page 32, display the setup item "200 SETUP GRADE".



- 2 Turn the search dial while pressing the DATA button. BASIC on the display will change to ENHANCED.
- 3 Press the SET button. Now the supplementary functions can be executed.

CLEANING THE HEADS

Be sure to use a KC-1C cleaning cassette (optional) to clean the video and audio heads.

Incorrect usage of the cleaning cassette may severely damage those heads. Please read the instructions supplied with the cleaning cassette thoroughly.

SPECIFICATIONS

Mechanical

Weight	27.5 kg (60 lb 10 oz)
Operating position	Horizontal (within 25 degrees)
Tape transport mechanism	U-matic system
Applicable video cassette	3/4-inch U-matic cassette KSP, KSP-S, KCA, KCS or equivalent
Tape speed	9.53 cm/sec.
Playback time	60 min. maximum (When a KSP-60-minute cassette is used)
Wow/flutter	±0.18% (DIN) or less
Fast forward	3 minutes or shorter (When a KSP 60-minute cassette is used)
Rewind	2 and a half minutes or shorter (When a KSP 60-minute cassette is used)
Search speed	SHUTTLE: Still, 1/30, 1/30, 1/5, 1/2, 1, 2, 5, and 10 times normal speed in forward and reverse directions JOG: Still to 1 times normal speed in forward and reverse directions
Connectors	AC IN: 3-pin AC connector VIDEO OUT: BNC connectors (2) AUDIO OUT CH-1/CH-2: XLR connectors (2) (Male) AUDIO OUT MONITOR: XLR connector (1) (Male) TIME CODE OUT: BNC connector (1) DUB OUT: 7-pin multi-connector (1) (Female) REF VIDEO IN (EXT SYNC IN): BNC connectors (2) REF VIDEO OUT: BNC connector (1) RF (OFF TAPE): BNC connector (1) MONITOR: 8-pin multi-connector (1) BNC connector (1) REMOTE1: RS-422A standard 9-pin multi-connector (1) REMOTE2: 24-pin multi-connector (1) HEADPHONES: JM-60 standard stereo phono jack (1)
Operating temperature	+5° C to +40° C (41° F to 104° F)
Storage temperature	-20° C to +60° C (-4° F to +140° F)

Electrical

Power requirements	AC 220-240 V, 50/60 Hz
Operating voltage	AC 90-264 V
Power consumption	130 W

Video

Playback system	Luminance: FM Chrominance: Subcarrier low-range conversion
Output	PAL composite video, sync negative, 1.0 Vp-p ± 0.2 V, 75 ohms, unbalanced
Dubbing output	Luminance: 0.5 Vp-p ± 0.1 V, sync negative, 75 ohms $\pm 10\%$ Chrominance: 0.5 Vp-p ± 0.1 V, 75 ohms $\pm 10\%$
Horizontal resolution	SP mode: 300 (TV) lines (color, monochrome) Conventional mode: 260 (TV) lines (color, monochrome)
S/N	SP mode: 46 dB or more for chrominance 49 dB or more for luminance (Y) Conventional mode: 46 dB or more for chrominance
K factor (2T pulse)	3% or less (SP mode)
DG	3% or less (SP mode)
DP	3 degree or less (SP mode)
Y/C delay	25 ns or shorter (SP mode)

Audio

Output	LINE: +4 dBm, balanced (with 600 ohm load impedance) MONITOR: +4 dBm, balanced (with 600 ohm load impedance) HEADPHONES: 8 ohm load impedance, binaural (controllable level: -46 to -26 dBs)
Distortion factor	2% or less (at 1 kHz standard level)
Frequency response	SP mode: 50 Hz to 15 kHz ± 3 dB Conventional mode: 50 Hz to 15 kHz ± 4 dB
S/N	SP mode: 52 dB or more (at 3% distortion level, without the Dolby NR) Conventional mode: 50 dB or more (at 3% distortion level)

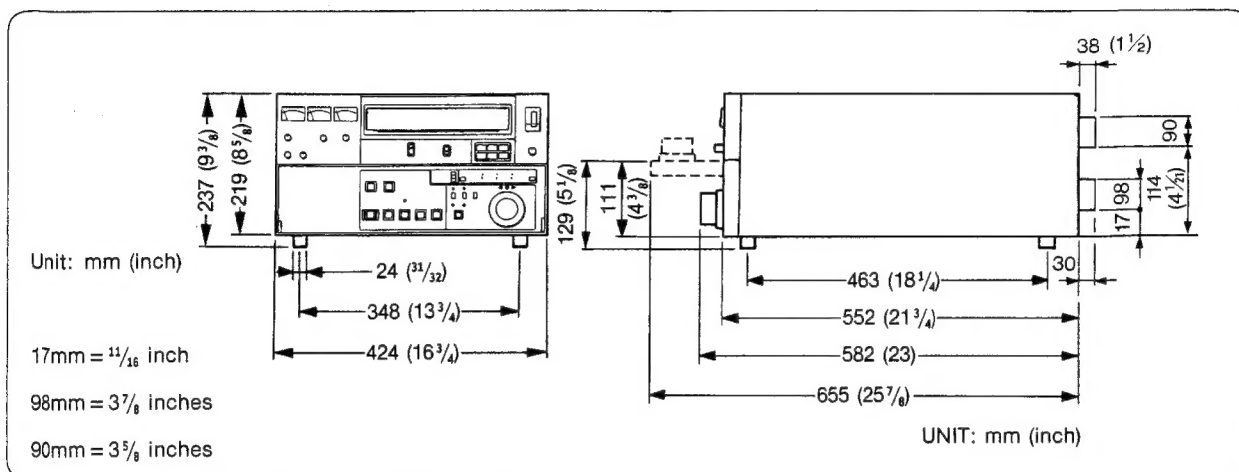
Others

REF VIDEO IN	1.0 Vp-p ± 0.2 V (VBS) or 0.3 Vp-p/0.3 Vp-p (BS), sync negative, 75 ohms, unbalanced (with one loop-through output, with the BKU-903A)
(EXT SYNC IN)	0.2 Vp-p to 5.0 Vp-p, sync negative, 75 ohms, unbalanced (with one loop-through output, without the BKU-903A)
RF (OFF TAPE) output	0.5 Vp-p, 75 ohms, unbalanced

Supplied accessories

AC power cord	1
Remote control cable (RCC-5G)	1
Extension boards (1-small, 1-large)	2
Operation manual and maintenance manual	1 set

Dimensions



Design and specifications subject to change without notice.